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TITLE: FCC METAL IN WHICH CRYSTAL ORIENTATION IS REGULATED
AND ITS PRODUCTION

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ABSTRACT:

PROBLEM TO BE SOLVED: To obtain an FCC metal in which crystal orientation is properly regulated and suitable for the material for a sputtering target by regulating the ratio of the integrated intensity of the (200) plane to that of the (111) plane in the crystals to specified value or above.

SOLUTION: It is desirable that the FCC metal has (110) priority orientation for securing directivity as for the crystal orientation. As the evaluation therefor, heat treatment is executed so as to regulate the ratio of the integrated intensity of the (220) plane to that of the (111) plane in X-ray

diffraction, i.e., $I_{(220)}/I_{(111)}$ value to ≥ 2.0 , by which good FCC can be obtd. Furthermore, among FCC, particularly, the one having a Cu matrix is excellent in electromagnation. Since the purity of this Cu exerts a remarkable influence on the fine structure of the coating, the purity of the Cu matrix is preferably regulated to $\geq 6N$. Moreover, since the sputtering rate and the uniformity of the coating deteriorate in the case the average grain size is made coarser, it is regulated to $\leq 200\mu m$.

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